

ABSTRACT

A titanium dioxide composite having a molecular recognition capacity is obtained by modifying the surface of a fine titanium dioxide particle with a hydrophilic polymer in such a manner that titanium dioxide is bonded via an ester bond to a carboxyl group of the hydrophilic polymer and immobilizing a molecule having an ability to specifically bind to a target molecule to the carboxyl residue of the hydrophilic polymer. Due to the molecule distinguishability, this titanium dioxide complex can bind specifically to an endocrine disrupting chemical, a pathogenic factor, a cancer cell and the like and decompose the same by a photocatalytic function.